



November 16, 2005

GIS Day Special Issue

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Welcome to this special issue of *Surface Matters*! Many engaging geographic gatherings took place as people across the state joined in at a host of GIS Day events. From Tucson to Window Rock, hundreds of visitors were treated to demonstrations and presentations highlighting the way we view and analyze the surface of the world.

In this issue we have descriptions of the events written by the people who made them happen. Review what you saw and see what you missed, then plan for the next one in 2006!



Brittney Knoblauch and Diana Branson display the clay pizzas they use to explain the concept of layering.

Arizona Science Center/Sites USA We had several activities available to help the children understand what GIS is and some examples of real world applications. For our youngest visitors we had a coloring page that challenged the children to get from one point to another. By using the “map” they were able to follow the path, thus helping them understand that maps help people reach their destinations.

With slightly older children we challenged them to complete a puzzle of the United States. They were forced to think about where major geographic features are located, in order to determine the correct position of the puzzle pieces. We then asked the children basic map questions such as; what is the purpose of the legend, what are the states of the four-corners, etc.

For the older, more advanced, participants we explained how GIS is a collection of layers of information. To do this we first showed them a clay pizza to demonstrate how it is made of different layers: dough, tomato sauce, cheese, and pepperoni. We then showed them a clay city map that also had four layers: ground, neighborhood roads, freeways, and houses. Finally, to pull all the information together, we asked them to look at any of our map samples and identify as many different layers as they could find.

Throughout the course of the day we had many, many visitors. With our younger visitors our primary goal was to introduce them to the world of maps. This was easily done and we were surprised by how many of them were already familiar with basic maps. The older children, however, provided us with a real opportunity to do some teaching. We taught them what GIS stands for and how it impacts their daily lives. They were enthusiastic about learning and peppered us with many brilliant questions. At the end of the day we left the Science Center feeling exhausted, but confident that we had sparked an interest, in at least some of the children, in learning more about GIS.



Kids gather to see how maps can be used to find a path from place to place.



Patrons of Tempe Public Library confer with GIS Day staff on a myriad of topics.

The **City of Tempe's** Engineering Division hosted GIS Day 2005 in the Tempe Public Library.

Approximately 75 visitors browsed GIS posters from the City Police Department, ASU's Department of Geography, ASU's Department of Geological Sciences, ASU's Institute for Social Science Research, Wide World of Maps, and AirPhoto USA. A highlight of the exhibit was a showing of the Upwardly Urban video portraying future city development projected onto a 3D base map.

Three members of Tempe's GIS staff were on hand to answer questions. The many posters on display presented a wide array of subjects, including crime analysis maps for Tempe and Tucson; wildfire preparation, battle, and recovery; habitat suitability for pygmy owls; Phoenix mountain preserve

trails; land use in Queen Creek, and many others. Also available were GIS Day buttons, pencils and t-shirts that people could take as mementos.

Whether visitors were library patrons, educators, career-switchers, college students, or children, they seemed to find something absorbing in the exhibit.

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Previous issues of Surface Matters are available on the AGIC web site.

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Surface Matters is the quarterly newsletter of the Arizona Geographic Information Council. It is written for those who want to stay in touch with the vision and activities of AGIC and with the continuing growth of GIS in Arizona.

Your comments about this publication are always welcome. Please send all correspondence to the editor.

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Pueblo High School in Tucson, Arizona hosted a GIS presentation given by Dr. Barbara Eiswerth, coordinator of Iskashiitaa Refugee Harvesting Network, and Arin Haverland, PhD candidate in Environmental Sciences at the University of Arizona. The many uses of GIS were discussed, and students viewed various informational websites.

Barbara has developed a program in which volunteers map out food resources within their communities and then organize harvesting and distribution, so there was a presentation of how she uses GIS in this project and an invitation to the students to participate. A follow-up presentation was given on December 12, 2005.

A few of the web sites from the Pueblo High presentation are:

GIS Kids page – www.gisforum.org/giskids/slide_1.htm

Tucson Youth Mapping and Gleaning Project – www.tug.bara.arizona.edu

National Geographic Maps & Geography – www.nationalgeographic.com/maps

The **Pima County Department of Transportation** Technical Services Division hosted its eighth annual GIS Fair on November 15th in downtown Tucson. The fair, one of the GIS Day 2005 events, was held to inform the public of how local government agencies and other organizations are utilizing GIS, as well as to provide a forum for information sharing between agencies.



Visitors crowd the Pima County DOT, allured by the many exhibits at the Pima County GIS Fair.

Visitor traffic was heavy during the morning hours of the fair as people arrived early, ready to query the presenters. At the **Pima Association of Governments** display, many were eager to hear about both the most recent 6-inch color orthophotography and PAG's new traffic volume count data. The **City of Tucson Transportation Department** provided multiple exhibits, one of which explained how they use GIS to track and meet their goals for sweeping every city street at least three times per year. Another big hit was the **City of Tucson Real Estate Division's** Pictometry exhibit, which demonstrated use of oblique imagery. The City of Tucson-initiated **GIS Cooperative** provided information about their volunteer organization, comprised of various agencies whose top priority is to join forces to help advance GIS and geospatial efforts within the GIS

community and public. On the other side of the fair, the **Town of Marana's** solid terrain model provided a visual treat for visitors, allowing them to walk around a three-dimensional image of the town and surrounding area.

Other municipal exhibitors, including the **Pima County Development Services, Transportation, and Wastewater Management** departments, and the **Town of Oro Valley**, presented various samples for GIS application of imagery, self-help kiosks, crime analysis, planner applications and decision making, residential sewer connections, and sewer construction plans. Rounding out the participants were **Humane Borders**, a community organization that provides humanitarian assistance and who showed visitors how GIS is used to track migrant paths and associated deaths; the **Southern Arizona Institute of Advanced Training**, who provides GIS application training; and the wonderful sponsor of the fair, **CADsoft Consulting**, who has teamed up with the other sponsors, **Autodesk** and **DLT Solutions**, to provide government customers with product expertise, localized support and training.



A 3-D terrain model of Marana brings lots of interest from Pima County residents.

The **Town of Marana** participated in the Pima County GIS Fair on Tuesday, November 15th. Marana's new terrain model was on display. Produced by Solid Terrain Modeling, Inc., the model depicts 514 square miles covering Marana and the surrounding area. The model was produced using PAG and USGS elevation data and Quickbird satellite imagery from Digital Globe Corporation.

Marana also brought GIS Day 2005 to **Marana Middle School**. Jennifer Psillas, the town's GIS Technician, gave a presentation to the 7th and 8th graders of Mr. Bell's Geography class. The presentation began with an introduction to GIS and what the GIS Department does for the town. The demonstration of Marana's MarGIS application was a hit because the students were able to interactively locate their houses and see satellite imagery of the properties. Other demonstrations included a 3D flythrough of the Tortolita Mountains and an introduction to Google Earth.



Students at Marana Middle School take in the subtleties of mapping and GIS.



Jennifer Psillas brings intrigue to the class with a 3-D flythrough.

At the **Navajo Nation** Museum & Library in Window Rock, M. C. Baldwin organized a metadata workshop with the help of two trainers from Northern Arizona University's Merriam-Powell Center for Environmental Research. A two-day metadata training class was conducted by Kirsten Ironside (GIS Coordinator), Paul Heinrich (IT Manager), and M. C. Baldwin (GIS-Systems Analyst).

Eighteen people (ages 25 to 55) registered to participate in the two-day workshop that began on GIS Day. The three trainers covered topics dealing with what is essential information to comply with FGDC standards. The essential elements were also compared with what is considered robust information. The example of 'Graphics Representation' was displayed to explain the required sections of the FGDC metadata. In addition to the regular topics covered in the workshop, such as the biological profile, the Native Place Names project was also highlighted.



Jami Garrison overflows with knowledge and enthusiasm in an auditorium full of eager students.

Jami Garrison from the **Arizona Department of Transportation** presented "How Geography Affects Your World" to approximately 225 first and second graders at **Horizon Community Learning Center** in Phoenix, Arizona. The kids learned about geography from the perspective of their everyday lives - from where their breakfast food comes from to what route they take to school in the morning. The highlight of the morning was an aerial photo of their school and surrounding neighborhood. Some of the kids even found their homes on the photo and were anxious to point them out.

The Arizona Department of Transportation held a GIS Day event on Monday, November 14, 2005 at their employee training center. There was a small map gallery and presentations throughout the day. Presentations ranged from how to use ArcExplorer to using the ADOT Data Warehouse to access data. The presentations were aimed at ADOT employees in an effort to promote the use of GIS throughout the agency. The ADOT VideoLog van, used to collect GPS centerline coordinates and photo imagery of the state highway system, was also on display.



The VideoLog Van captivates a crowd of fascinated onlookers with its many high-tech features.

The **City of Chandler** had a goal this year to make the City's 6th Annual GIS Day bigger and better. They wanted to think outside of the box, involve a wider array of demonstrators, and focus on educating students and the public. In early October, Chandler lost a dear friend and GIS Day visionary, Dave Varela, to cancer. Dave was the GIS Manager at the City of Chandler from 1998 – 2005. After five successful GIS Days under Dave's watch, Scott Moore, acting GIS Manager, wanted to make the 6th Annual GIS Day an even larger event in Dave's memory. They began by utilizing project management methodologies making this year's GIS Day an event with an assigned project manager. They involved more Information Technology staff in the planning and execution phases, and worked with the City's Communications and Public Affairs Division. There was a buzz in the air, and they felt they were on the right track.

Chandler had a lofty goal, so they knew they had to utilize many different avenues to get the word out. Invitations were sent out to Chandler area public school and home-schooled students. Advertising was done at the Westcor Chandler Fashion Center, the downtown Chandler Library, the Chandler Senior Center, the City of Chandler website (<http://www.chandleraz.gov>), the Chandler events email listing, their phone system recording, and GISDay.com. Chandler conducted a media day where they presented an overview of GIS and their day's events to the *East Valley Tribune*, *The Arizona Republic*, and *Chandler Independent* newspapers.

The format of the event was changed for this year. Chandler focused the morning session, from 8:00 AM to 1:30 PM, on students only, while the afternoon session, from 2:30 – 6:30 PM, was for City staff and the general public. The turnout was greater than expected with the final count more than 400 attendees. They had 177 students attend from Hamilton and Chandler High schools, and 184 students from Humphrey and Frye Elementary schools. Scott Moore and Tyrone Howard, Project Management Office Manager, addressed all of the participating school kids about GIS in higher education and possible careers related to GIS technology.

The City of Chandler had a tremendous outpouring of support from Valley businesses that donated refreshments, hardware, and gift certificates for prize drawings. CCS Presentation Systems was there with two rear-projection Smart Boards that were used to play geography games. Sponsors included: Food City, Bashas', Walmart, Target, Mind Over Splatter, Pei Wei, Famous Dave's BBQ, Elephant Bar, Saba's Western Wear, LaStalla Cucina Rustica, Phoenix



The Globetrotters debate the merits of WGS84 vs. NAD83 with patrons of Chandler's GIS Day festival.

Flower Shops, Cupids, Starbucks Coffee, Paradise Bakery, Java Spot, Goodman's Interiors, Fresco, BJ's Brewery, Rigatony's, EMIII, Van's Golf Shop, Stratum Laser Tag, Office Max, and San Marcos Resort. Participating in the event were representatives from ESRI, ASU, and Arizona Bluestake. The Harlem Globetrotters even had 4 members of their team on hand signing autographs and demonstrating their skills! The Harlem Globetrotters are ambassadors of goodwill and perform numerous events with local schools. They shared Chandler's vision of helping bridge the digital divide, and brought an amazing level of excitement to the City of Chandler GIS Day event. Chandler's hope is that the Harlem Globetrotters will continue to demonstrate their commitment to the community, education and technology by partnering in the future.

The demonstrations included Crime Analysis, Code Enforcement, Emergency/Tactical Preplans,

Fire/Emergency Incident Analysis, Sewer Network Analysis, Traffic Communications, Environmental GIS, Sales Tax



Hordes of students wait to explore a multitude of exhibits.

GIS, InfoMap (available to the public), TM7 Valve Maintenance, Hydrant Maintenance, Street Asset Management, Police Command Van, Fire Engine and Battalion Chief SUV. ESRI demonstrated their 3-D software products, ASU's Geography Department spoke with attendees about the geography program at ASU, and Arizona Bluestake showed how they use GIS technology to locate utilities. There were also demonstrations of free GIS software available through Google Earth and NASA Worldwind.

The City of Chandler's 6th Annual GIS Day was a huge success because of the efforts of staff from numerous City departments. With continued support from local businesses, the enthusiasm of students, and the public, Chandler's GIS team looks forward to making the event bigger next year.

All of Chandler's GIS Day photos can be seen at: www.pbase.com/colling/gis_2005



A proud display of the Chandler Fire Department's modern equipment.

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Photo Credits: The photos in the title banner were provided by the City of Chandler. Other photos are from Mike Tschudi, Vernon Woods, Chris Mack, Jennifer Psillas, Jami Garrison, and Jim Riedmann.